NEW SPECIES OF VERNONIEAE (ASTERACEAE). III.

ADDITIONS TO PIPTOCARPHA

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Piptocarpha is a wide-spread genus in the Neotropical Region with most of the approximately 50 species (Jones, 1977) in South America. Numerous Andean species have been described in recent years, including the unique P. cuatrecasasiana (Aristeg.) Badillo (Aristeguieta, 1963, 1964; Badillo, 1974) having hairs inside the corolla. Recent studies involving Brazilian species include those of Cabrera (1957) and Barroso (1959), the latter with a key to the species in the Rio de Janiero area. Three further additions to the Brazilian flora given below include two new species and one transfer from the genus Stifftia.

Piptocarpha matogrossensis H.Robinson, sp. nov.

Plantae subarborescentes vel arborescentes multo ramosae ca. 4 m altae et 10 cm latae. Caules teretes subtiliter striati dense minute sordide lepidoti. Folia alterna, petiolis 7-17 mm longis saepe leniter arcuatis; laminae coriaceae oblongo-ellipticae plerumque 4.5-7.5 cm longae et 1.4-3.3 cm latae base anguste rotundatae vel breviter cuneatae plerumque inaequales margine integrae apice obtusae vel anguste rotundatae supra in sicco flavo-virides glabra in nervis primariis anguste lepidotae in nervulis prominulae subtus dense sordide lepidotae, nervis secundariis utrinque ca. 7 plerumque 20-30° ascendentibus. Inflorescentiae axillares subglomeratae breviter corymbosae subumbellatae, ramis 1-4 mm longis dense sordide lepidotis. Capitula ca. 6-9 in axillo 10-12 mm alta; involucra anguste campanulata ca. 7 mm alta et 3 mm lata in partibus interioribus decidua; squamae involucri ca. 25 et ca. 5-6-seriatae confertae ellipticae 1-6 mm longae et ad 2 mm latae apice breviter acutae in squamis mediis margine scariosae, squamae exteriores et apices squamarum interioris extus appresse lepidotae margine pauce fimbriatae. Flores 5-8. Corollae albae? ca. 6 mm longae plerumque glabrae, tubis 1.5-2.0 mm longis, faucis ca. 1.5 mm longis leniter infundibularibus, lobis ca. 2.5 mm longis et 0.5 mm latis superne pauce glanduliferis et dense substellato-piliferis; thecae antherarum ca. 3.5 mm longae base caudatae argute acutae, caudis ca. 1 mm longis; appendices antherarum oblongo-lanceolatae ca. 0.6 mm longae et 0.2 mm latae non glanduliferae. Achaenia ca. 4 mm longa glabra sublaevia in superficiis interioribus leniter costata; carpopodia minuta; setae pappi tenues cinereae (appear-

ing white on specimen) 90-100 plerumque 6 mm longae, setae exteriores paucae lineares 0.5-1.0 mm longae. Grana pollinis ca. 35 μm?

TYPE: BRAZIL: Mato Grosso: Vicinity of Barro do Garças, ca. 45 km N. on road to Xavantina. Cerrado. Small tree to ca. 4 m x 10 cm. Pappus gray-brown. Occasional. Elev. 300-300 m. Oct. 15, 1964. Irwin & Soderstrom 6926 (Holotype US).

Both geography and the general description place the new species close to P. senescens Baker, but the leaves of the latter are noted as 5-6 inches long by 2 1/2 - 3 wide, as being distinctly denticulate, and being subcoriaceous or comparatively flexuose for a member of the genus. Other suggested differences are the more brownish and more lepidote pubescence on the leaf undersurface. The carpopodium seems small compared to those of many other species, and the secondary veins are less prominent on the underside.

Piptocarpha santosii H.Robinson, sp. nov.

Plantae fruticosae (subscandentes?) mediocriter ramosae. Caules subteretes vix angulati dense ferruginose stellate tomentosi. Folia alterna, petiolis 2-3 cm longis crassis dense stellate tomentosis; laminae subcoriaceae suborbiculatae 8-12 cm longae et ca. 6-9 cm latae base plerumque aliquantum inaequales late rotundatae vel vix cordatae margine integrae vel remote minute denticulatae apice breviter apiculatae supra subtiliter rugulosae scabride pilosulae in nervis dense stellato-tomentosae subtus sordide subdense stellato-tomentosae, nervis secundariis utrinque ca. 8 plerumque recte patentibus. Inflorescentiae axillares subglomeratae breviter corymbosae, ramis ultimis 1-4 mm longis ferrugineo-tomentosis. Capitula ca. 8 in axillo 12-14 mm alta ca. 5 mm lata; involucra turbinata 8-9 mm alta superne constricta aliquantum persistentia; squamae involucri ca. 30 et ca. 6-seriatae dense confertae ellipticae vel late ellipticae 1.5-7.0 mm longae et 1.5-2.0 mm latae in squamis mediis suborbiculatae ad 4 mm latae margine late scariosae, squamae exteriores extus tomentosae, interiores extus plerumque subglabrae-subapice appresse substellate pubescentes margine fimbriatae. Flores ca. 9. Corolla albae firmae ca. 8-9 mm longae plerumque glabrae, tubis ca. 3.5 mm longis, faucis ca. 1.5 mm longis leniter infundibularibus, lobis 3.0-3.5 mm longis et ca. 0.5 mm latis superne glanduliferis et pauce substellato-piliferis; thecae antherarum ca. 3.5 mm longae base caudatae argute acutae, caudis ca. 0.5 mm longis; appendices antherarum lanceolatae 0.9 mm longae et base 0.25 mm latae non glanduliferae. Achaenia 3.5-4.0 mm longa distincte 10-costata glabra; carpopodia prominentia; setae pappi tenues albae 75-80 plerumque 6-7 mm longae, squamae exteriores numerosae lineares ad 1 mm longae. Grana pollinis ca. 35-37 μm in diam. indistincte lophorata spinulosa.

TYPE: BRAZIL: Bahia: Eunápolis Colonia estrada do rio do peixe do W. Arbusto raminoso fl. branca involoco verde.

Mata. 18.5.71. T.S.Santos 1670 (Holotype US).

The new species is unusual in the suborbicular leaves with nearly perpendicular spreading secondary veins. The stellate pubescence seems to be more highly developed than in any other species of the genus. The hairs are less branched on the stem, are densely branched on the petioles, and are more laxly but more stellately branched on the undersurface of the leaf.

Piptocarpha stifftioides H.Robinson, nom. nov.

Stifftia axillaris Barroso & G.da Vinha, Loefgrenia 44: 1. 1970. Not Piptocarpha axillaris (Less.) Baker. The species first aroused suspicion because of the axillary inflorescences such as are common in most Brazilian species of Piptocarpha. Nevertheless, careful examination has been necessary to confirm the relationship. The glabrous leaves and the stout rather reddish pappus setae are similar to Stifftia which is also native in eastern Brazil, however, a position in the Vernonieae rather than the Mutisieae is indicated by the small thin anther appendages, the slightly lophorate and spinulose pollen grains, the thinly and irregularly thickened endothecial cells, and the long style branches with pubescence along their entire external surface. The position in Piptocarpha is evident in the distinctive form of the achenes, the few somewhat stellate appressed hairs on the tips of the corolla lobes, and in the often slightly unequal bases of the leaf blades. The species has blunt-tipped anther bases, but the basal portion is evidently sterile tissue and thus represents a tail. Most species of Piptocarpha have a very sharp tail, but blunt tails have been seen on specimens from Bahia determined as P. pyrifolia Baker. The species is unusual in the genus by having only 1-3 heads in the axils of each leaf.

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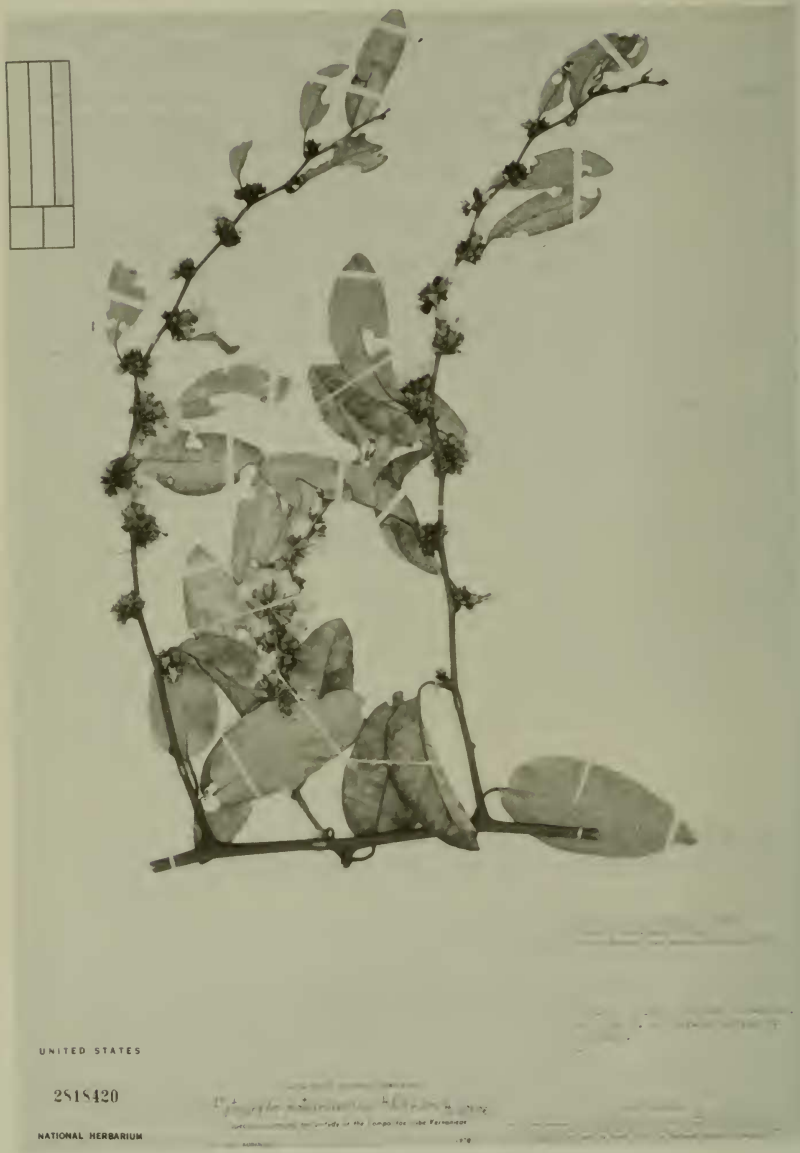
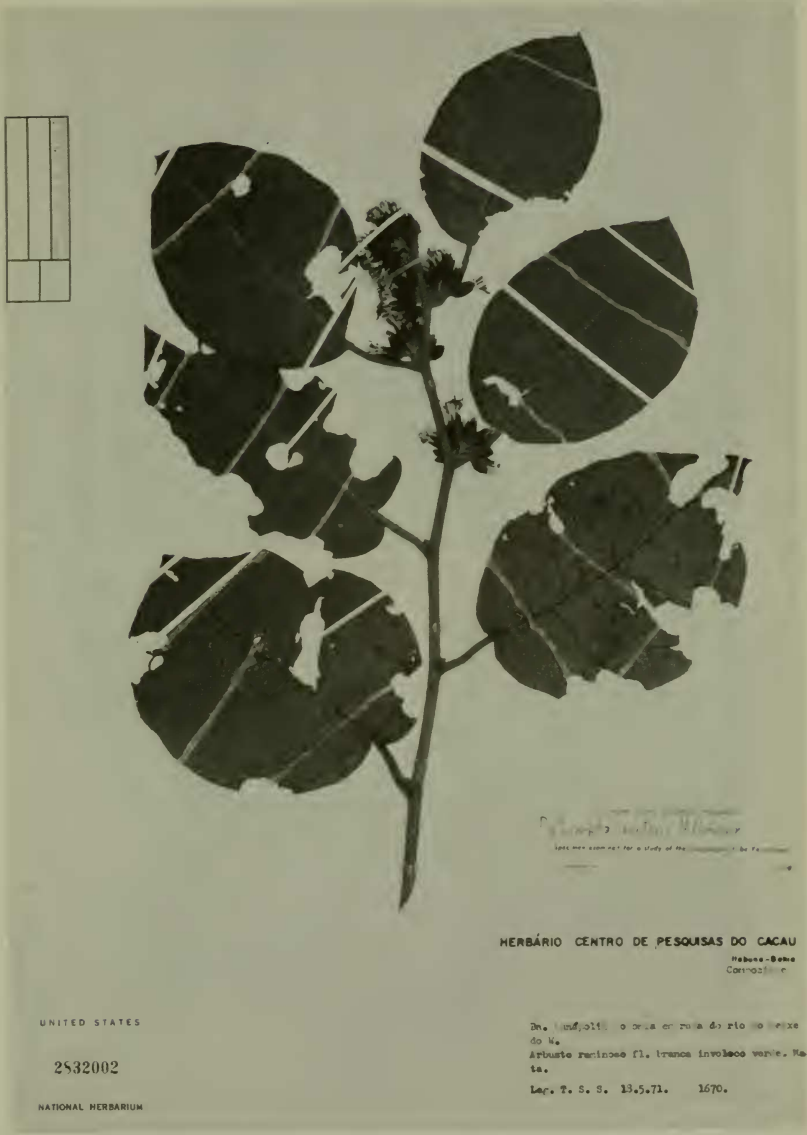


Piptocarpha matogrossensis H.Robinson, Holotype, United States National Herbarium. Photos by Victor E. Krantz, Staff Photographer, National Museum of Natural History.



Piptocarpha santosii H.Robinson, Holotype, United States National Herbarium.

Piptocarpha, enlargements of heads: Top. P. matogrossensis. Bottom. P. santosii.